

CLAIMS

We claim:

1. In a wireless communication system in which a mobile station is engaged in a call over an air interface, a method comprising:

making a determination that the call in which the mobile station was engaged has been

5 dropped; and

responsively determining a call-drop location of the mobile station.

2. The method of claim 1, wherein the mobile station is communicatively coupled to a network entity over the air interface, the method further comprising sending to the network entity over the air interface a message that defines the call-drop location, the message being sent
5 when the mobile station acquires connectivity with a base station of the wireless communication system.

3. The method of claim 2, further comprising storing the call-drop location in the network entity, the network entity selected from the group consisting of a server and a base station.

4. The method of claim 2, wherein the message is selected from the group consisting of an HTTP message, a session initiation protocol (SIP) message, a short mail session (SMS) message, and a wireless access protocol (WAP) message.

5. The method of claim 2, wherein sending to the network entity over the air interface the message defining the call-drop location comprises sending the message over the air

interface from the mobile station to the network entity via a communication path selected from the group consisting of an access channel, an enhanced access channel, and a traffic channel.

6. The method of claim 2,

wherein the mobile station comprises a GPS receiver;

wherein the GPS receiver is operable to provide the call-drop location of the mobile station; and

5 wherein determining the call-drop location of the mobile station comprises obtaining from the GPS receiver the call-drop location.

7. The method of claim 6, further comprising:

storing the call-drop location in data storage of the mobile station; and

retrieving the call-drop location from the data storage in order to send to the network entity the call-drop location when the mobile station acquires connectivity with a base station of
5 the wireless communication system.

8. The method of claim 1, wherein making the determination that the call in which the mobile station was engaged has been dropped comprises determining, at the mobile station, that a duration of bad frames received from the base station is greater than a threshold level.

9. The method of claim 1, wherein making the determination that the call in which the mobile station was engaged has been dropped comprises determining, at the base station, that a duration of bad frames received from the mobile station is greater than a threshold level.

10. The method of claim 1, wherein making the determination that the call in which the mobile station was engaged has been dropped comprises the base station determining that the call cannot be handed off to another cell-site.

11. The method of claim 1,
wherein the wireless communication system comprises position determining equipment (PDE); and

wherein determining the call-drop location comprises causing the PDE to determine the
5 location of the mobile station.

12. A system comprising:

a mobile station;

a network entity;

wherein the mobile station is communicatively coupled to the network entity over an air
5 interface; and

wherein the mobile station is arranged to:

(i) make a determination that a call in which the mobile station was engaged
has been dropped;

(ii) responsively determine a call-drop location of the mobile station.

10 (iii) when connectivity with the network entity is acquired, send to the network
entity over the air interface a message defining the call drop location.

13. The system of claim 12, wherein the mobile station comprises a GPS receiver
operable to determine the call-drop location of the mobile station.

14. The system of claim 12, wherein the mobile station being arranged to send to the network entity over the air interface the message comprises the mobile station being arranged to send the message over the air interface from the mobile station to the network entity via a communication path selected from the group consisting of an access channel, an enhanced access
5 channel, and a traffic channel.

15. The system of claim 12, wherein the message defining the call-drop location is selected from the group consisting of an HTTP message, a session initiation protocol (SIP) message, a short mail session (SMS) message, and a wireless access protocol (WAP) message.

16. The system of claim 12,
wherein the mobile station further comprises data storage; and
wherein the mobile station is further arranged to:
(i) store the call-drop location in the data storage, in response to obtaining from
5 the GPS receiver the call-drop location of the mobile station; and
(ii) retrieve the call drop location from the data storage in order to send to the network entity the call-drop location when the mobile station acquires connectivity with a base station of the wireless communication system.

17. The system of claim 12, wherein the mobile station being arranged to make the determination that the call in which the mobile station was engaged has been dropped comprises the mobile station being arranged to make the determination that a duration of bad frames received from the base station is greater than a threshold level.

18. The system of claim 17, wherein the threshold level is twenty bad frames.

19. The system of claim 12, wherein the network entity is a server.

20. The system of claim 12,
wherein the network entity comprises memory; and
wherein the network entity is further arranged to store the call-drop location in the
memory to thereby log locations of call drop events.

21. A system comprising:

a mobile station;

a network entity communicatively coupled to the mobile station;

wherein the mobile station is arranged to engage in a call over an air interface; and

5 wherein the network entity is arranged to:

(i) make a determination that the call in which the mobile station was engaged has
been dropped;

(ii) responsively cause position determining equipment (PDE) to determine a call-
drop location of the mobile station.

22. The system of claim 21, wherein the network entity is a base station.

23. The system of claim 21, wherein the network entity being arranged to make the
determination that the call in which the mobile station was engaged has been dropped comprises
the network entity being arranged to make the determination that a duration of bad frames
received from the mobile station is greater than a threshold level.

24. The system of claim 21, wherein the threshold level is twenty bad frames.

25. The system of claim 21,
wherein the network entity comprises memory; and
wherein the network entity is further arranged to store the call-drop location in the
memory to thereby log locations of call drop events.

26. The system of claim 21, wherein the network entity being arranged to make the
determination that the call in which the mobile station was engaged has been dropped comprises
the network entity being arranged to make the determination that the call cannot be handed off to
another a cell-site.

27. A mobile station comprising:
a first routine to make a determination that a call in which the mobile station is engaged
has been dropped;
a second routine to responsively determine a call-drop location of the mobile station.
5 a third routine to make a determination that connectivity is acquired with a network entity
over an air interface; and
a fourth routine to send to the network entity over the air interface a message defining a
call drop location.

28. A base station comprising:
a first routine to make a determination that a call in which a mobile station was engaged
has been dropped; and
a second routine to responsively cause position determining equipment (PDE) to
5 determine a call-drop location of the mobile station.